```
=> file .jacob
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                        41.47     105.28

FILE 'CAPLUS' ENTERED AT 15:48:32 ON 18 NOV 2003
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FILE 'USPATFULL' ENTERED AT 15:48:32 ON 18 NOV 2003
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=> biocata(5A)film(10A)latex
L68             0 FILE CAPLUS
L69             0 FILE BIOSIS
L70             0 FILE MEDLINE
L71             0 FILE EMBASE
L72             0 FILE USPATFULL

TOTAL FOR ALL FILES
L73             0 BIOCATA(5A) FILM(10A) LATEX

=> biocatalytic(P)film(P)latex(P)(coat or imbed or integra)
L74             2 FILE CAPLUS
L75             2 FILE BIOSIS
L76             1 FILE MEDLINE
L77             0 FILE EMBASE
L78             1 FILE USPATFULL

TOTAL FOR ALL FILES
L79             6 BIOCATALYTIC(P) FILM(P) LATEX(P)(COAT OR IMBED OR INTEGRA)

=> dup rem
ENTER L# LIST OR (END):l79
PROCESSING COMPLETED FOR L79
L80             3 DUP REM L79 (3 DUPLICATES REMOVED)

=> d l80 ibib abs total

L80  ANSWER 1 OF 3  USPATFULL on STN
ACCESSION NUMBER:         2002:140886  USPATFULL
TITLE:                    Porous films and process
INVENTOR(S):              Gebhard, Matthew S., New Britain, PA, UNITED STATES
                          Lesko, Patricia M., Ottsville, PA, UNITED STATES
                          Brown, Albert B., Buckingham, PA, UNITED STATES
                          Young, David H., Ambler, PA, UNITED STATES

                               NUMBER         KIND    DATE
                          ---------------- ------ --------
PATENT INFORMATION:       US 2002071867       A1   20020613
APPLICATION INFO.:        US 2001-965377      A1   20010927  (9)

                                 NUMBER         DATE
```

PRIORITY INFORMATION:	US 2000-241603P 20001019 (60)
DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	Stephen E. Johnson, Rohm and Haas Company, 100 Independence Mall West, Philadelphia, PA, 19106
NUMBER OF CLAIMS:	16
EXEMPLARY CLAIM:	1
LINE COUNT:	1013

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Porous films are provided which include a blend of a film forming polymer and a non-film forming material, the film having a network of pores or channels throughout the film. The porous polymer films are formed between 0.degree. and 80.degree. C., retain porosity at elevated temperatures and are non-friable. A process for preparing porous polymer films and their applications are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L80 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1

ACCESSION NUMBER:	2001:781554 CAPLUS
DOCUMENT NUMBER:	135:368886
TITLE:	Engineering the microstructure and permeability of thin multilayer latex biocatalytic coatings containing E. coli
AUTHOR(S):	Lyngberg, O. K.; Ng, C. P.; Thiagarajan, V.; Scriven, L. E.; Flickinger, M. C.
CORPORATE SOURCE:	Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN, 55455, USA
SOURCE:	Biotechnology Progress (2001), 17(6), 1169-1179 CODEN: BIPRET; ISSN: 8756-7938
PUBLISHER:	American Chemical Society
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB The microstructure and permeability of rehydrated 20-100 .mu.m thick partially coalesced (vinyl-acetate acrylic copolymer) SF091 **latex** coatings and a 118 .mu.m thick model trilayer **biocatalytic** coating consisting of two sealant SF091 layers contg. a middle layer of viable Escherichia coli HB101 + **latex** were studied as delaminated **films** in a diffusion app. with KNO3 as the diffusant. The permeability of the hydrated coatings is due to diffusive transport through the pore space between the partially coalesced SF091 **latex** particles. Coating microstructure was visualized by fast freeze cryogenic SEM (cryo-SEM). The effective diffusion coeff. of SF091 **latex** coatings (diffusive permeability/**film** thickness) was detd. as the ratio of the effective diffusivity of KNO3 to its diffusivity in water (Deff/D). Polymer particle coalescence was arrested by two methods to increase coating permeability. The first used glycerol with coating drying at 4.degree., near the glass transition temp. (Tg). The second method used sucrose or trehalose as a filler to arrest coalescence; the filler was then dissolved away. Deff/D was measured as a function of **film** thickness; content of glycerol, sucrose, and trehalose; drying time; and rehydration time. Deff/D varied from 3.times.10-4 for unmodified SF091 coatings to 6.8.times.10-2 for coatings contg. sucrose. Deff/D was reduced by the flattening of **latex** particles against the surface of the solid substrate, as well as by the presence of the colloid stabilizer hydroxyethylcellulose (HEC). When cor. for the flattened particle layer, Deff/D of HEC-free coatings was as high as 0.20, which agreed with the value prediced from anal. of cryo-SEM images of the **coat** surface. Deff/D decreased by one-half in approx. 5 days in rehydrated SF091 coatings, indicating that significant wet coalescence occurs after glycerol, sucrose, or trehalose are leached from the **films**. Deff/D of SF091 **latex** trilayer

coatings contg. viable E. coli HB101 cells decreased as cell loading was increased from 2.2.times.10-2 for 64 g dry cell wt. per L of **coat** vol. to 5.times.10-3 for 151 g DCW/L of **coat** vol. The redn. in coating permeability with increasing cell loading is predicted by Maxwell's equation for Deff/D in periodic composites.
REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L80 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 1999:202327 CAPLUS
DOCUMENT NUMBER: 131:15844
TITLE: Construction of a Thread Coater and Use of Azocasein Release To Characterize the Sealant Coat Porosity of Fibers Coated with Latex Biocatalytic Coatings
AUTHOR(S): Flickinger, Michael C.; Mullick, Ashim; Ollis, David F.
CORPORATE SOURCE: Biological Process Technology Institute and Department of Biochemistry Molecular Biology and Biophysics, University of Minnesota, St. Paul, MN, 55108, USA
SOURCE: Biotechnology Progress (1999), 15(3), 383-390
CODEN: BIPRET; ISSN: 8756-7938
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A single-stage annular fiber coating method with co-current dry-air drying at 30.degree. has been developed for multilayer coating of 128 .mu.m diam. polyester thread (yarn) with **latex films** as a model for enzyme immobilization and development of a filament **biocatalytic** filter. Acrylic vinyl acetate polymer coatings were sequentially metered onto the fibers by the combination of a flexible squeegee and a red rubber annulus. The thread coater can operate over a range of 0.07-1.37 m/min thread velocities while delivering a nearly const. and reproducible polymer loading of 30.8.+-.1.3 mg/m. A 100% polyester, 278.9 denier thread was precoated with **latex** to generate an approx. 369 denier sealed filament. The filament was then coated with a **latex** + sulfanilamide-azocasein mixt. and sealed with a polymer top **coat**. The permeability of the polymer sealant top **coat** was characterized using entrapped azocasein as a tracer mol. and monitoring the azocasein release upon rehydration of the coated threads. Azocasein release rate decreased with curing time at 30.degree. until 2 days and was invariant after 2-3 days of curing. A 282 mOsm rehydrating soln. was sufficient to suppress increased azocasein release due to top **coat** blistering. No enhancement in the permeability of the top **coat** was obsd. when high mol. wt. water sol. polymers (WSPs) were used as fillers. This probably results from the low WSP to **latex** ratio used (0.05-0.1) and the slow rate of WSP leaching compared to the release of azocasein. A method using 60-120 mesh silica was also developed to study the effect of mech. abrasion of the coated threads as measured by azocasein release kinetics.
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> sensor(P)film(P)polymer
L81 2320 FILE CAPLUS
L82 143 FILE BIOSIS
L83 120 FILE MEDLINE
L84 174 FILE EMBASE
L85 2051 FILE USPATFULL

TOTAL FOR ALL FILES
L86 4808 SENSOR(P) FILM(P) POLYMER

=> sensor(10A)film(15A)polymer

```
L87         836 FILE CAPLUS
L88          29 FILE BIOSIS
L89          28 FILE MEDLINE
L90          52 FILE EMBASE
L91         631 FILE USPATFULL

TOTAL FOR ALL FILES
L92        1576 SENSOR(10A) FILM(15A) POLYMER

=> l92 and (cell-coat)
L93           0 FILE CAPLUS
L94           0 FILE BIOSIS
L95           0 FILE MEDLINE
L96           0 FILE EMBASE
L97           0 FILE USPATFULL

TOTAL FOR ALL FILES
L98           0 L92 AND (CELL-COAT)

=> l92 and (cell(2A)coat)
L99           0 FILE CAPLUS
L100          0 FILE BIOSIS
L101          0 FILE MEDLINE
L102          0 FILE EMBASE
L103          0 FILE USPATFULL

TOTAL FOR ALL FILES
L104          0 L92 AND (CELL(2A) COAT)

=> cell(2A)coat
L105        708 FILE CAPLUS
L106       1235 FILE BIOSIS
L107        901 FILE MEDLINE
L108        842 FILE EMBASE
L109       1289 FILE USPATFULL

TOTAL FOR ALL FILES
L110       4975 CELL(2A) COAT

=> l92 and l110
L111          0 FILE CAPLUS
L112          0 FILE BIOSIS
L113          0 FILE MEDLINE
L114          0 FILE EMBASE
L115          0 FILE USPATFULL

TOTAL FOR ALL FILES
L116          0 L92 AND L110

=> file .meeting
'EVENTLINE' IS NOT A VALID FILE NAME
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files
that are available.  If you have requested multiple files, you can
specify a corrected file name or you can enter "IGNORE" to continue
accessing the remaining file names entered.
ENTER A FILE NAME OR (IGNORE):ignore
COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                     ENTRY    SESSION
FULL ESTIMATED COST                                  49.20     154.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                     ENTRY    SESSION
CA SUBSCRIBER PRICE                                  -1.30      -1.30
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=> sensor(P)polymer(P)(coat or imbed or integra)
L117          0 FILE AGRICOLA
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)POLYMER'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'POLYMER(P)(COAT'
L118          2 FILE BIOTECHNO
L119          0 FILE CONFSCI
L120          0 FILE HEALSAFE
L121          0 FILE IMSDRUGCONF
L122          0 FILE LIFESCI
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)POLYMER'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'POLYMER(P)(COAT'
L123          0 FILE MEDICONF
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)POLYMER'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'POLYMER(P)(COAT'
L124         12 FILE PASCAL

TOTAL FOR ALL FILES
L125         14 SENSOR(P) POLYMER(P)(COAT OR IMBED OR INTEGRA)

=> dup rem
ENTER L# LIST OR (END):l125
DUPLICATE IS NOT AVAILABLE IN 'IMSDRUGCONF, MEDICONF'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L125
L126          12 DUP REM L125 (2 DUPLICATES REMOVED)

=> d l126 ibib abs total

L126  ANSWER 1 OF 12  PASCAL  COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.
      on STN
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COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

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=> filickinger m/au
L1            0 FILE AGRICOLA
L2            0 FILE BIOTECHNO
L3            0 FILE CONFSCI
L4            0 FILE HEALSAFE
'AU' IS NOT A VALID FIELD CODE
L5            0 FILE IMSDRUGCONF
L6            0 FILE LIFESCI
'AU' IS NOT A VALID FIELD CODE
L7            0 FILE MEDICONF
L8            0 FILE PASCAL

TOTAL FOR ALL FILES
L9            0 FILICKINGER M/AU

=> biosensor(P)latex\
L10           1 FILE AGRICOLA
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX\'
L11          10 FILE BIOTECHNO
L12           0 FILE CONFSCI
L13           0 FILE HEALSAFE
L14           0 FILE IMSDRUGCONF
L15           3 FILE LIFESCI
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX\'
L16           0 FILE MEDICONF
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX\'
L17          21 FILE PASCAL

TOTAL FOR ALL FILES
```

```
L18          35 BIOSENSOR(P) LATEX\

=> biosensor(P)latex
L19           1 FILE AGRICOLA
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
L20          10 FILE BIOTECHNO
L21           0 FILE CONFSCI
L22           0 FILE HEALSAFE
L23           0 FILE IMSDRUGCONF
L24           3 FILE LIFESCI
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
L25           0 FILE MEDICONF
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
L26          21 FILE PASCAL

TOTAL FOR ALL FILES
L27          35 BIOSENSOR(P) LATEX

=> biosensor(P)latex(P)(coat or embed)
L28           0 FILE AGRICOLA
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L29           0 FILE BIOTECHNO
L30           0 FILE CONFSCI
L31           0 FILE HEALSAFE
L32           0 FILE IMSDRUGCONF
L33           0 FILE LIFESCI
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L34           0 FILE MEDICONF
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L35           0 FILE PASCAL

TOTAL FOR ALL FILES
L36           0 BIOSENSOR(P) LATEX(P)(COAT OR EMBED)

=> dup rem
ENTER L# LIST OR (END):l27
DUPLICATE IS NOT AVAILABLE IN 'IMSDRUGCONF, MEDICONF'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L27
L37          27 DUP REM L27 (8 DUPLICATES REMOVED)

=> d l37 ibib abs total

L37   ANSWER 1 OF 27  PASCAL  COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.
      on STN
ACCESSION NUMBER:         2003-0444592   PASCAL
COPYRIGHT NOTICE:         Copyright .COPYRGT. 2003 INIST-CNRS. All rights
                          reserved.
TITLE (IN ENGLISH):       Conventional detection method of fibrinogen and fibrin
                          degradation products using latex
                          piezoelectric immunoassay
                          Selected papers from the Seventh World Congress on
```

Biosensors

AUTHOR: AIZAWA Hidenobu; KUROSAWA Shigeru; TOZUKA Mitsuhiro; PARK Jong-Won; KOBAYASHI Koichi; TANAKA Hideo

CORPORATE SOURCE: National Institute of Advanced Industrial Science and Technology (AIST), 1-1 Higashi, Tsukuba, Ibaraki 305-8565, Japan; Musashi Institute of Technology, 1-28-1 Tamazutsumi, Setagaya, Tokyo 158-8557, Japan; University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8572, Japan

SOURCE: Biosensors & bioelectronics, (2003), 18(5-6), 765-771, 29 refs.
Conference: 7 Biosensors 2002 World Congress on Biosensors, Tokyo (Japan), 15 May 2002
ISSN: 0956-5663

DOCUMENT TYPE: Journal; Conference

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: United Kingdom

LANGUAGE: English

AVAILABILITY: INIST-20668, 354000111039190350

AN 2003-0444592 PASCAL

AB We developed a conventional immunosensor for fibrinogen and fibrin degradation products (FDP) to combine a quartz crystal microbalance (QCM) with the agglutination reaction of immunized **latex** beads. FDP induced an immunoreaction due to anti-FDP antibody immobilized **latex** particles. We successfully measured FDP concentration of in human serum within 10 min by QCM method. The detection range of QCM immunosensor is covered with screening concentration of FDP in serum (<10 .mu.g/ml of FDP). The time course of **latex** agglutination obtained from QCM immunosensor is synchronized to that of **latex** photometric immunoassay. SEM was used to observe the surface of QCM that applied FDP serum. The size of **latex** particles agglutinated on the QCM electrode increased concomitant with FDP concentration. Frequency shift on immunoreaction explains the increased adsorption amount of agglutinated **latex** on QCM.

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ACCESSION NUMBER: 2002-0509825 PASCAL

TITLE (IN ENGLISH): Surface-plasmon fluorescence spectroscopy

AUTHOR: NEUMANN T.; JOHANSSON M. L.; KAMBHAMPATI D.; KNOLL W.

CORPORATE SOURCE: Max-Planck-Inst. F. Polymerforschung, D-55128 Mainz, Germany, Federal Republic of

SOURCE: Advanced Functional Materials, (2002), 12(9), 575-586, 14 refs.
ISSN: 1616-301X

DOCUMENT TYPE: Journal

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: United States

LANGUAGE: English

AVAILABILITY: INIST-XXXX

AN 2002-0509825 PASCAL

AB We summarize some features of the recently introduced surface-plasmon field-enhanced fluorescence spectroscopy (SPFS): a novel technique offering an increased sensitivity for monitoring interfacial binding reactions in **biosensor** formats. We briefly discuss the enhancement factors obtainable at resonant excitation of surface-plasmon modes propagating along a (noble) metal/dielectric interface and refer to the (Forster) energy transfer mechanisms operating for chromophores excited near metal surfaces. As a first example, we present data obtained during the binding of fluorophore-doped **latex** particles to a functionalized interface. Then, experiments are described with surface-attached oligonucleotide catcher probes and complementary target stands from solution, demonstrating the potential of SPES for monitoring

hybridization reactions.

L37 ANSWER 3 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 2003-0015006 PASCAL
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TITLE (IN ENGLISH): Encapsulation and stability properties of nanoengineered polyelectrolyte capsules for use as fluorescent sensors : Biomedical applications
AUTHOR: DUCHESNE Ted A.; BROWN J. Quincy; GUICE Kyle B.; LVOV Yuri M.; MCSHANE Michael J.
CORPORATE SOURCE: Biomedical Engineering Program, Louisiana Tech University, 911 Hergot Avenue, PO Box 10137, Ruston, LA 71272, United States; Chemical Engineering Program, Louisiana Tech University, 911 Hergot Avenue, PO Box 10137, Ruston, LA 71272, United States; Institute for Micromanufacturing, Louisiana Tech University, 911 Hergot Avenue, PO Box 10137, Ruston, LA 71272, United States
SOURCE: Sensors and materials, (2002), 14(6), 293-308, 34 refs.
ISSN: 0914-4935
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Japan
LANGUAGE: English
AVAILABILITY: INIST-26630, 354000105134640010
AN 2003-0015006 PASCAL
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AB This is the first report about a novel fluorescence sensor technology based on hollow micro- and nanoscale polyelectrolyte capsules. The nanostructured shells were constructed using the electrostatic layer-by-layer assembly process to deposit multilayer polyion films onto microtemplates (melamine formaldehyde microspheres). The **latex** cores were subsequently dissolved and removed, leaving hollow shells. The capsules were then loaded with a model fluorescent assay consisting of a sodium-sensitive dye and a reference fluorophore. Fluorescence spectroscopy was used to analyze properties of the capsules with respect to their potential application as **biosensors**. The results show that multiple dye molecules can be introduced into the interior of the capsules with excellent control over relative levels, and the capsules retain >99% of fluorescence during 30 days of storage in a buffer. The findings also demonstrate that the capsules are mechanically robust, and only extremes in solvent pH cause significant leaching of fluorophores from the interior of the shells. Finally, results from sodium sensitivity experiments suggest that capsules have excellent potential for use as sensors, with a highly linear response over a broad range (0-100 mM).

L37 ANSWER 4 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 2002-0211685 PASCAL
TITLE (IN ENGLISH): A sensor for blood cell counter using MEMS technology
AUTHOR: SATAKE D.; EBI H.; OKU N.; MATSUDA K.; TAKAO H.; ASHIKI M.; ISHIDA M.
CORPORATE SOURCE: Fundamental Technol. Research Dept. HORIBA Ltd., Kyoto 601-8510, Japan
SOURCE: Sensors and Actuators, B: Chemical, (2002), 83(1-3), 77-81, 3 refs.
Conference: Selected papers from Transducers '01 Eurosensors XV (Transducers 2001), Munich, Germany, 10 Jun 1901-14 Jun 1901
ISSN: 0925-4005
DOCUMENT TYPE: Journal; Conference

BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Switzerland
LANGUAGE: English
AVAILABILITY: INIST-19425 B
AN 2002-0211685 PASCAL
AB In this study, a sensor for blood cell counter has been developed using MEMS technology. The number of blood cells in human blood could be counted with this micro silicon MEMS device. Aperture-impedance method was used to detect blood cells as voltage signals. As a result of the investigations, suitable materials for the electrode of the device have been found. At first, polystyrene **latex** particles (PSL: Duke Scientific Corp.) were used to confirm the operation of the blood cell counter instead of the actual blood. The difference of the sizes of PSL particles were successfully recognized from the height of pulses and also the concentration of PSL particles were counted by the number of pulses. Finally control blood was introduced into the device, and both red and white blood cells were detected. .COPYRGT. 2002 Elsevier Science B.V. All rights reserved.

L37 ANSWER 5 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 2002-0113029 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): A comparative physical study of two different hydrophilic synthetic **latex** matrices for the construction of a glucose **biosensor**
Papers Presented at the 2nd France-Israel Workshop on **Biosensors** and Biochips, Grenoble, France, 11-16 December 2000
AUTHOR: COSNIER Serge; SZUNERITS Sabine; MARKS Robert S.; NOVOA Andres; PUECH Laurence; PEREZ Emile; RICO-LATTES I.
COSNIER Serge (ed.); MARKS Robert (ed.)
CORPORATE SOURCE: Laboratoire d'Electrochimie Organique et de Photochimie Redox, UMR CNRS 5630, Universite Joseph Fourier Grenoble 1, BP 53, 38041 Grenoble, France; The Institute for Applied Biosciences, Ben Gurion University of the Negev, PO Box 653, Beer-Sheva 84105, Israel; Department of Biotechnology Engineering, Ben Gurion University of the Negev, PO Box 653, Beer-Sheva 84105, Israel; Laboratoire des IMRCP (CNRS UMR 5623), Universite Paul Sabatier, 118 route de Narbonne, 31062 Toulouse, France
Laboratoire d'electrochimie organique et de photochimie Redox, universite Joseph Fourier, 38041 Grenoble, France; The Institute for Applied Biosciences, Ben Gurion University of the Negev, Beer-Sheva 84105, Israel
Universite Joseph Fourier Grenoble 1. Laboratoire d'electrochimie organique et de photochimie Redox UMR CNRS 5630, Grenoble, France (patr.)
SOURCE: Talanta : (Oxford), (2001), 55(5), 889-897, 33 refs.
Conference: 2 France-Israel Workshop on Biosensors and Biochips, Grenoble (France), 11 Dec 2000
ISSN: 0039-9140 CODEN: TLNTA2
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United Kingdom
LANGUAGE: English
AVAILABILITY: INIST-9221, 354000103099130020
AN 2002-0113029 PASCAL
CP Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.
AB Two different biodegradable **latex** polymers functionalised by

hydroxy (1) or gluconamide (2) groups proved to be good immobilisation matrixes for glucose oxidase. The responses of these **biosensors** to glucose additions were measured by potentiostating the modified electrodes at 0.6 V SCE in order to oxidise the hydrogen peroxide generated by the enzymatic oxidation of glucose in the presence of oxygen. The response of such electrodes was evaluated as a function of film thickness, pH and temperature. Rotating disk electrode experiments showed the influence of the enzyme on the structure of both **latex** films, namely a marked improvement in matrix permeability. The high permeability of the **latex** 1 based enzyme sensor (bilayer, P.sub.m = 8.10 x 10.sup.-.sup.4cm s .sup.1) resulted in a high dynamic range. Furthermore, the activation energy for a **latex** 1 sensor was determined to be 44.55 and 18.03 kJ mol .sup.1, respectively depending on the conformation of the enzyme.

L37 ANSWER 6 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2001-0077549 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): A rapid and easy procedure of **biosensor** fabrication by micro-encapsulation of enzyme in hydrophilic synthetic **latex** films. Application to the amperometric determination of glucose
AUTHOR: COSNIER Serge; SZUNERITS Sabine; MARKS Robert S.; NOVOA Andres; PUECH Laurence; PEREZ Emile; RICO-LATTES Isabelle
CORPORATE SOURCE: Laboratoire d'Electrochimie Organique et de Photochimie Redox, UMR CNRS 5630, Universite Joseph Fourier Grenoble 1, 301 rue de la Chimie, BP 53, 38041 Grenoble, France; The Institute for Applied Biosciences, Ben Gurion University of the Negev, P.O. Box 653, Beer-Sheva 84105, Israel; Laboratoire des IMRCP (CNRS UMR 5623), Universite Paul Sabatier, 118 route de Narbonne, 31062 Toulouse, France
SOURCE: Electrochemistry communications, (2000), 2(12), 851-855, 24 refs. ISSN: 1388-2481
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands
LANGUAGE: English
AVAILABILITY: INIST-26863, 354000094484820070

AN 2001-0077549 PASCAL
CP Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
AB Novel enzyme electrodes based on synthetic hydrophilic **latex** matrices are described for the detection of glucose. Glucose oxidase was immobilised through micro-encapsulation, by the simple adsorption of enzyme-**latex** suspensions on the surface of a platinum electrode. Two **latex** films functionalised by a hydroxy or a gluconamide group were used. The response of these **biosensors** to glucose additions was measured by potentiostating the modified electrodes at 0.6 V/SCE in order to oxidise the hydrogen peroxide generated by the enzymatic oxidation of glucose in the presence of dioxygen. The response of such electrodes was evaluated as a function of film thickness and temperature. The sensitivity for a two-layer **latex**-based **biosensor** was found to be 38.78 mA M-' cm.sup.-.sup.2 with a response time of 3-5 s. Moreover, a marked improvement of the thermal stability of the **biosensor** was observed. Only at temperatures higher than 65.degree.C the enzyme started to be denatured and being inactive.

L37 ANSWER 7 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN

ACCESSION NUMBER: 2000:30686245 BIOTECHNO
TITLE: Materials and techniques for electrochemical **biosensor** design and construction
AUTHOR: Zhang S.; Wright G.; Yang Y.
CORPORATE SOURCE: S. Zhang, Centre Science/Technology in Med., WE Dunn Unit, Keele University, Staffordshire ST5 5BG, United Kingdom.
SOURCE: Biosensors and Bioelectronics, (2000), 15/5-6 (273-282), 96 reference(s)
CODEN: BBIOE4 ISSN: 0956-5663
PUBLISHER ITEM IDENT.: S0956566300000762
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2000:30686245 BIOTECHNO
AB New developments in **biosensor** design are appearing at a high rate as these devices play increasingly important roles in daily life. This review aims to highlight recent developments in materials and techniques for electrochemical **biosensor** design and construction. Rapid growth in biomaterials, especially the availability and application of a vast range of polymers and copolymers associated with new sensing techniques have led to remarkable innovation in the design and construction of **biosensors**, significant improvements in sensor function and the emergence of new types of **biosensor**. Nevertheless, in vivo applications remain limited by functional deterioration due to surface fouling by biological components. However, new copolymers based upon biomembrane mimicry have been extensively investigated during the last two decades, raising hopes that the problems related to interactions between foreign surfaces and biological fluids and tissues may soon be solved. Copyright (C) 2000 Elsevier Science S.A.

L37 ANSWER 8 OF 27 PASCAL
on STN
ACCESSION NUMBER: 2000-0311070 PASCAL
TITLE (IN ENGLISH): Surface-plasmon field-enhanced fluorescence spectroscopy
AUTHOR: LIEBERMANN T.; KNOLL W.
CORPORATE SOURCE: Max-Planck-Inst fuer Polymerforschung, Mainz, Germany, Federal Republic of
SOURCE: Colloids and Surfaces A: Physicochemical and Engineering Aspects, (2000), 171(1), 115-130, 27 refs.
ISSN: 0927-7757
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands
LANGUAGE: English
AVAILABILITY: INIST-18274 A
AN 2000-0311070 PASCAL
AB We describe the combination of surface plasmon- and fluorescence spectroscopy for sensor applications. The resonant excitation of PSP modes at a metal/buffer-interface in a flow cell results in optical field intensities largely enhanced compared to the incoming laser light: a factor of 16, calculated for a Au/water interface by Fresnel formulas was experimentally confirmed. This field enhancement can be used to increase the sensitivity for monitoring binding reactions of an analyte from the aqueous phase to the recognition sites at a functionalized interface, provided this interfacial architecture ensures that the bound (fluorescently labeled) analyte molecules are still within the exponentially decaying evancescent field of the PSP mode, however, also keeping them sufficiently away from the (acceptor states of the) metal to avoid Foester quenching of the emitted fluorescence. A quantitative analysis is given for two examples: one is the binding of fluorescently-doped **latex** particles, (at sub-monolayer

coverage), carrying in addition biotin-moieties at their surface for binding to a streptavidin layer at the Au/buffer interface. Here, a correlation between fluorescence intensity and layer thickness can be analyzed. A second example concerns a small biotinylated chromophore, the very dilute binding of which to the steptavidin layer results in only a minute angular shift of the PSP resonance curve, too small to be detected. The fluorescence intensity, however, is easily recorded and gives a rough estimate of the obtainable enhancement factor of ca. 1000.

L37 ANSWER 9 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1999-0418295 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): In situ assembly of colloidal particles into miniaturized **biosensors**
AUTHOR: VELEV O. D.; KALER E. W.
CORPORATE SOURCE: Center for Molecular and Engineering Thermodynamics, Department of Chemical Engineering, University of Delaware, Newark, Delaware 19716, United States
SOURCE: Langmuir, (1999), 15(11), 3693-3698, 33 refs.
ISSN: 0743-7463 CODEN: LANGD5
DOCUMENT TYPE: Journal; Letter
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-20642, 354000084661620010
AN 1999-0418295 PASCAL
CP Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.
AB We show how to create arrays of **biosensors** by in situ assembly of colloidal particles onto micropatterned electrodes. **Latex** microspheres from suspension are collected via dielectrophoresis in the micrometer-sized gaps between planar electrodes. The assembled particulate patches are fixed by changing the colloidal interactions to induce coagulation. Immuno-active sites on the **latex** surfaces bind the target molecules. A direct electric conductivity readout is accomplished after secondary tagging with colloidal gold and its enhancement by silver nucleation. The method holds promise for creating disposable on-chip arrays of highly sensitive miniature sensors for specific proteins, DNA fragments, or other biomolecules.

L37 ANSWER 10 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1999-0527377 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Development of a high sensitivity IgG-**latex** immunodetection system stabilized by hydration forces
AUTHOR: MOLINA-BOLIVAR J.; GALISTEO-GONZALEZ F.; HIDALGO-ALVAREZ R.
CORPORATE SOURCE: Grupo de Fisica de Fluidos y Biocoloides, Departamento de Fisica Aplicada, Facultad de Ciencias, Universidad de Granada, 18071 Granada, Spain
SOURCE: Polymer international, (1999), 48(8), 685-690, 31 refs.
Conference: Macromoleculas Habana '97. International Symposium, Habana (Cuba), 1 Dec 1997
ISSN: 0959-8103
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United Kingdom
LANGUAGE: English
AVAILABILITY: INIST-14717, 354000089119930100
AN 1999-0527377 PASCAL

AB We present the application of hydration forces to obtain high sensitivity IgG-**latex** immunosystems. To compare these with another standard system, a study is presented of IgG- and F(ab').sub.2-**latex** conjugates in terms of colloidal stability and immunoreactivity. The stability domains have been examined using a low-angle light scattering technique (nephelometer). The protein-coated particles present an anomalous stability at high ionic strength when the classical theory predicts aggregation, and this stabilization is attributed to hydration forces. Different electrolyte concentrations and counterion valences have been tested to determine the most influential factors on this stabilization mechanism. Long-term aggregation of the conjugates has also been studied by measuring the aggregate size by photon correlation spectroscopy. To quantify the immunoresponse of the agglutination tests, aggregation in the presence of antigen is followed as a function of time with the nephelometer. The considerable increase in immunoresponse, together with the decrease in possible perturbing side-reactions enhances the technical interest of this method of stabilizing immunolatexes.

L37 ANSWER 11 OF 27 BIOTECHNO
DUPLICATE
ACCESSION NUMBER: 1999:29397149 BIOTECHNO
TITLE: A single-use luciferase-based mercury **biosensor** using Escherichia coli HB101 immobilized in a **latex** copolymer film
AUTHOR: Lyngberg O.K.; Stemke D.J.; Schottel J.L.; Flickinger M.C.
CORPORATE SOURCE: Dr. M.C. Flickinger, Biological Process Technology Inst., University of Minnesota, 1479 Gortner Ave., St. Paul, MN 55108, United States.
SOURCE: Journal of Industrial Microbiology and Biotechnology, (1999), 23/1 (668-676), 46 reference(s)
CODEN: JIMBFL ISSN: 1367-5435
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1999:29397149 BIOTECHNO
AB A single-use Hg(II) patch **biosensor** has been developed consisting of 1.25-cm diameter patches of two acrylic vinyl acetate copolymer layers coated on polyester. The top layer copolymer was 47 .mu.m thick whereas the bottom layer of copolymer plus E. coli cells was 30 .mu.m thick. The immobilized E. coli HB101 cells harbored a mer-lux plasmid construct and produced a detectable light signal when exposed to Hg(II). The immobilized-cell Hg(II) **biosensor** had a sensitivity similar to that of suspended cells but a significantly larger detection range. The levels of mercury detected by the patches ranged from 0.1 nM to 10,000 nM HgCl.sub.2 in pyruvate buffer, and luciferase induction as a function of Hg(II) concentration was sigmoidal. Luciferase activity was detected in immobilized cells for more than 78 h after exposure of the cells to HgCl.sub.2. Addition of 1 mM D-cysteine to the pyruvate buffer increased luciferase induction more than 100-fold in the immobilized cell patches and 3.5-fold in a comparable suspension culture. The copolymer patches with immobilized cells were stable at -20.degree.C for at least 3 months, and the Hg(II)-induced luciferase activity after storage was similar to that of samples assayed immediately after coating. Patches stored desiccated at room temperature for 2 weeks showed lower mercury-induced luciferase activity when compared to freshly prepared patches, but they still had a considerable detection range of 1 to 10 000 nM HgCl.sub.2.

L37 ANSWER 12 OF 27 AGRICOLA

(2003) on STN DUPLICATE 2

ACCESSION NUMBER: 97:82764 AGRICOLA
DOCUMENT NUMBER: IND20605298
TITLE: Hygromycin B antibody production and characterization by a surface plasmon resonance biosensor.
AUTHOR(S): Medina, M.B.
CORPORATE SOURCE: ERRC, ARS, USDA, Wyndmoor, PA.
AVAILABILITY: DNAL (381 J8223)
SOURCE: Journal of agricultural and food chemistry, Feb 1997. Vol. 45, No. 2. p. 389-394
Publisher: Washington, D.C. : American Chemical Society.
CODEN: JAFCAU; ISSN: 0021-8561
NOTE: Includes references
PUB. COUNTRY: District of Columbia; United States
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English

AB Sensitive and accurate methods are needed for the detection of hygromycin B antibiotic in fluids and tissues of farm animals. Sheep antisera were produced from hygromycin B-keyhole limpet hemocyanin and were screened with immunodiffusion, ELISA, and fluorescent **latex** assays. The antisera were evaluated with the BIAcore, a surface plasmon resonance **biosensor**, for their binding properties without using signal-generating labels. Hygromycin B was immobilized on the sensor chip, and the capture (binding) of the antibody resulted in a proportional increase in mass. Evaluation of the association (ka) and dissociation rate (kd) contents showed that one antibody had an affinity constant (ka/kd) of 1.64E + 10. The binding capacities and antisera specificity were determined using a competitive binding of the added drug and hygromycin sensor, detecting hygromycin B from 2.5 ng/mL to 5 mg/mL. Neomycin, gentamicin, spectinomycin, dihydrostreptomycin, and streptomycin (1000 times above safe levels) had negligible binding with the antisera. The BIAcore analysis was more rapid and accurate than the immunochemical assays and allow rapid development of methods of hygromycin B analysis in biological samples.

L37 ANSWER 13 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1997-0442531 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1997 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): The bidiffractive grating coupler : application to immunosensing
AUTHOR: SPINKE J.; ORANTH N.; FATTINGER C.; KOLLER H.; MANGOLD C.; VOEGELIN D.
KUNZ Rino E. (ed.)
CORPORATE SOURCE: F. Hoffmann-La Roche Ltd, Diagnostics Division, 4070 Basel, Switzerland; chF. Hoffmann-La Roche Ltd, Diagnostics Division, 4070 Basel, Switzerland; F. Hoffmann-La Roche Ltd, Pharmaceuticals Division, 4070 Basel, Switzerland
Paul Scherrer Institute, Badenerstrasse 569, 8048 Zurich, Switzerland
SOURCE: Sensors and actuators. B, Chemical, (1997), 39(1-3), 256-260, 19 refs.
Conference: 3 EUROPT(R)ODE III: European Conference on Optical Chemical Sensors and Biosensors, Zurich (Switzerland), 31 Mar 1996
ISSN: 0925-4005
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Switzerland
LANGUAGE: English

AVAILABILITY: INIST-19425B, 354000044952150130
AN 1997-0442531 PASCAL

AB We report on the application of the bidiffractive grating coupler to the sensitive detection of immunoreactions. The thyroid-stimulating hormone (TSH) assay is used as a model system. The capture antibodies are randomly coupled to the functionalized TiO.sub.2 surface using two approaches: direct coupling to the waveguide surface via a self-assembled monolayer of an amino-reactive silane; and coupling via a thin hydrophilic polymer interlayer. All steps of the surface modification are characterized by the bidiffractive grating coupler and the properties of the two surfaces are compared with respect to non-specific binding, amount of antibody immobilization and antigen binding capacity. A direct TSH assay (label free) shows a detection limit of 1 x10.sup.-.sup.9 mol l.sup.-.sup.1, which corresponds to a surface coverage of 24 pg mm.sup.-.sup.2. In a sandwich-type assay the sensitivity can be improved by two to three decades by the use of **latex** particles.

L37 ANSWER 14 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1997:27490612 BIOTECHNO
TITLE: Sensitivity enhancement of optical immunosensors with nanoparticles
AUTHOR: Kubitschko S.; Spinke J.; Bruckner T.; Pohl S.; Oranth N.
CORPORATE SOURCE: J. Spinke, F. Hoffmann-La Roche Ltd., Diagnostics Division, Building 205/306, CH-4070 Basel, Switzerland.
SOURCE: Analytical Biochemistry, (1997), 253/1 (112-122), 18 reference(s)
CODEN: ANBCA2 ISSN: 0003-2697
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1997:27490612 BIOTECHNO
AB In recent years, several optical sensor techniques have been developed for the direct monitoring of biomolecular recognition processes at the surface of a sensor chip. Applications of these immunosensors for the determination of substances in serum could be demonstrated only for a few analytes due to the lack of sensitivity. Beside nonspecific binding of serum components to the sensor surface, the analytical sensitivity of these sensors is limited by the molecular weight of the analyte, so that smaller analyte molecules give only a moderate sensor response. In order to enhance the sensor signal, the use of mass labels, such as **latex** particles, was proposed in the literature. However, detection limits comparable to those of conventional ELISA techniques could not be realized so far. We demonstrate the optimization of a 'nanoparticle enhanced immunosensor assay' for the detection of thyroid stimulating hormone, with respect to the particle coating, size, and nonspecific binding. The developed prototype assay requires a sample volume of 225 .mu.L and has a measuring range up to 35 mIU/L. For the first time, we obtained a detection limit of 0.03 mIU/L (0.1 pM), which is fully competitive to conventional ELISA techniques. The assay allows serum samples to be measured with good precision and dilution linearity. The sensor can be reused several times and shows an excellent correlation to a commercial enzyme immunoassay.

L37 ANSWER 15 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1997-0067224 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1997 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Fabrication and characterization of nanostructured gold electrodes for electrochemical **biosensors**

AUTHOR: PADESTE C.; KOSSEK S.; LEHMANN H. W.; MUSIL C. R.; GOBRECHT J.; TIEFENAUER L.
CORPORATE SOURCE: Paul Scherrer Institut, 5232 Villigen PSI, Switzerland; Paul Scherrer Institut, 8048 Zuerich, Switzerland
SOURCE: Journal of the Electrochemical Society, (1996), 143(12), 3890-3895, 16 refs.
ISSN: 0013-4651 CODEN: JESOAN
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-4925, 354000061271880200
AN 1997-0067224 PASCAL
CP Copyright .COPYRGT. 1997 INIST-CNRS. All rights reserved.
AB A process to structure gold electrodes with nanometer-sized dimensions for **biosensor** applications has been developed. **Latex** spheres (60 nm diam) are used as a masking material during the evaporation of a gold film onto a Si/SiO.sub.2 substrate. Openings left in the film after lift-off of the spheres are suitable in size to immobilize proteins such as antibodies or enzymes which can act as specific recognition elements. The nanometer-scale proximity of the recognition elements to the conducting material allows the development of mediatorless **biosensors**. This paper describes the optimization of the nanostructuring process as well as the morphological and electrochemical characterization of the structured electrodes.

L37 ANSWER 16 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1995-0511541 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1995 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Two-dimensional **latex** assemblies and their potential application in diagnostics
AUTHOR: SLOMKOWSKI S.; KOWALCZYK D.; TRZNADEL M.
CORPORATE SOURCE: Polish acad. sci., cent. molecular macromolecular studies, 90-363 Lodz, Poland
SOURCE: Trends in polymer science : (Regular ed.), (1995), 3(9), 297-304, 29 refs.
ISSN: 0966-4793
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United Kingdom
LANGUAGE: English
AVAILABILITY: INIST-22981, 354000054614890030
AN 1995-0511541 PASCAL
CP Copyright .COPYRGT. 1995 INIST-CNRS. All rights reserved.

L37 ANSWER 17 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1995-0154935 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1995 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): **Latex** piezoelectric immunoassay : effect of interfacial properties
AUTHOR: GHOURCHIAN H. O.; KOMO N.
CORPORATE SOURCE: Hokkaido univ., fac. pharmaceutical sci., lab. biophysical chemistry, Sapporo 060, Japan
SOURCE: Analytica chimica acta, (1995), 300(1-3), 99-105, 20 refs.
ISSN: 0003-2670 CODEN: ACACAM
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands

LANGUAGE: English
AVAILABILITY: INIST-3950, 354000058055030140
AN 1995-0154935 PASCAL

AB **Latex** piezoelectric immunoassay is a technique for detecting agglutination of antibody- or antigen-bearing **latex** by an immunoreaction using a piezoelectric quartz crystal; the agglutination decreases the oscillation frequency of the crystal. This is advantageous in that immobilization of antibody or antigen on the crystal surface is unnecessary. In this report, different kinds of chemical functional groups were immobilized on the electrode surface, allowing us to consider the effect of interfacial structure on the frequency change. Electrode modifications such as self-assembly of alkanethiol and aminoalkoxysilane monolayers, and polyethylenimine-glutaraldehyde coating as well as plasma treatment were examined. The sensitivity of the system was found to imitate the interfacial properties so that modification of the electrode surface could improve the response

L37 ANSWER 18 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1995:26099186 BIOTECHNO
TITLE: Incorporation of the cholera toxin receptor in phospholipid-covered polystyrene microspheres
AUTHOR: Sicchierolli S.M.; Carmona-Ribeiro A.M.
CORPORATE SOURCE: Departamento Bioquimica, Instituto Quimica, Universidade Sao Paulo, CP 26077,Sao Paulo SP, Brazil.
SOURCE: Colloids and Surfaces B: Biointerfaces, (1995), 5/1-2 (57-61)
CODEN: CSBBEQ ISSN: 0927-7765
DOCUMENT TYPE: Journal; Article
COUNTRY: Netherlands
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1995:26099186 BIOTECHNO
AB The incorporation of monosialoganglioside (GM1) in phosphatidylcholine-covered **latexes** is described. Quantitative analysis of the total incorporation is carried out using pyrene-labeled GM1. Incorporation reaches 50% of the total amount added when microspheres are covered with one PC monolayer plus one PC bilayer at least. In contrast, GM1 adsorption onto the bare **latex** is zero. Phospholipid coverage is an essential factor for driving incorporation of the cholera toxin receptor in the microspheres. The results may be of importance for the development of **biosensors**.

L37 ANSWER 19 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 1994:24314966 BIOTECHNO
TITLE: Nucleic acid detection with surface plasmon resonance using cationic **latex**
AUTHOR: De Vries E.F.A.; Schasfoort R.B.M.; Van der Plas J.; Greve J.
CORPORATE SOURCE: Netherlands Organization, Applied Scientific Research (TNO), Department of Microbiology, P.O. Box 360,3700 AJ Zeist, Netherlands.
SOURCE: Biosensors and Bioelectronics, (1994), 9/7 (509-514)
CODEN: BBIOE4 ISSN: 0956-5663
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1994:24314966 BIOTECHNO
AB An affinity sensor based on Surface Plasmon Resonance (SPR) was used to detect nucleic acids. SPR is an optical technique that is able to detect small. changes in the refractive index of the immediate vicinity of a metal surface. After a specific amplification of DNA, achieved using the

performance during several recharge cycles (of 14 days each) over a period of 4 months.

L37 ANSWER 22 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 1993:23356400 BIOTECHNO
TITLE: Enhanced surface plasmon resonance inhibition test (ESPRIT) using **latex** particles
AUTHOR: Severs A.H.; Schasfoort R.B.M.
CORPORATE SOURCE: Department of Microbiology, TNO-Nutrition and Food Research, PO Box 360,3700 AJ Zeist, Netherlands.
SOURCE: Biosensors and Bioelectronics, (1993), 8/7-8 (365-370)
CODEN: BBIOE4 ISSN: 0956-5663
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1993:23356400 BIOTECHNO
AB The pregnancy hormone human chorionic gonadotropin (hCG) was used as a model antigen to describe a new assay, the Enhanced Surface Plasmon Resonance Inhibition Test (ESPRIT). It was shown that the introduction of sub-micron **latex** particles instead of anti-antibodies in an enhancement step improved the sensitivity of the assay by a factor of 30. **Latex** particles are therefore considered to be versatile tools in the development of new immunochemical assays for the detection of any analyte using SPR immunosensors.

L37 ANSWER 23 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1993:23224559 BIOTECHNO
TITLE: An immunosensor for syphilis screening based on surface plasmon resonance
AUTHOR: Severs A.H.; Schasfoort R.B.M.; Salden M.H.L.
CORPORATE SOURCE: Netherlands Organization for, Applied Scientific Research, PO Box 360,3700 AJ Zeist, Netherlands.
SOURCE: Biosensors and Bioelectronics, (1993), 8/3-4 (185-189)
CODEN: BBIOE4 ISSN: 0956-5663
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1993:23224559 BIOTECHNO
AB In this paper the development of a surface plasmon resonance (SPR) immunosensor for syphilis screening is described. This immunosensor is based on the detection of antibodies in serum against the causative organism Treponema pallidum. In order to achieve selectivity a recombinant Treponema pallidum membrane protein A (TmpA) was used. This antigen can react with antibodies to T. pallidum, present in serum of syphilitic patients. Reproducible results have been obtained, using a 'sandwich SPR' method: binding of a sandwich antibody to the treponemal antibody after serum incubation was measured in real time while the binding was taking place. The SPR results obtained from ten blind-coded sera corresponded well with classical syphilis tests (Treponema pallidum haemagglutination assay (TPHA) fluorescent treponemal antibody-absorbed test (FTA-ABS), venereal diseases research laboratory flocculation test (VDRL) and TmpA-based enzyme-linked immunosorbent assay (TmpA-ELISA)). Preliminary experiments showed that direct measurement of serum (in the 'one step SPR') is not yet possible, probably as a result of non-uniformity of serum samples. The application of **latex** beads is considered to solve this problem.

L37 ANSWER 24 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1993-0297586 PASCAL
TITLE (IN ENGLISH): Phospholipid adsorption onto polystyrene microspheres

AUTHOR: CARMONA-RIBEIRO A. M.; HERRINGTON T. M.
CORPORATE SOURCE: Univ. Sao Paulo, dep. bioquimica, 01498 Sao Paulo, Brazil
SOURCE: Journal of colloid and interface science, (1993), 156(1), 19-23, 10 refs.
ISSN: 0021-9797 CODEN: JCISA5
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-4124, 354000036579890020
AN 1993-0297586 PASCAL
AB Small unilamellar phospholipid vesicles and polystyrene microspheres interact in aqueous solution to form homodisperse and stable phospholipid covered **latexes**. First, the bilayer attaches to the **latex**. Second, the hydrophobic attraction between the phospholipid bilayer and the hydrophobic polystyrene surface induces coverage with one phospholipid monolayer. Thereafter phospholipid bilayer (s) deposits onto the monolayer covered **latex**. These results may be of importance for reconstitution of the protein function, studies on cell surface recognition, and building-up of immunological kits and **biosensors**.

L37 ANSWER 25 OF 27 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1993-0255167 PASCAL
TITLE (IN ENGLISH): Third-generation amperometric **biosensor** for glucose. Polypyrrole deposited within a matrix of uniform **latex** particles as mediator
AUTHOR: KOOPAL C. G. J.; FEITERS M. C.; NOLTE R. J. M.; DE RUITER B.; SCHASFOORT R. B. M.
CORPORATE SOURCE: Univ. Nijmegen, Nijmegen SON res. cent., 6525 ED Nijmegen, Netherlands
SOURCE: Bioelectrochemistry and bioenergetics, (1992), 29(2), 159-175, 30 refs.
ISSN: 0302-4598
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Switzerland
LANGUAGE: English
AVAILABILITY: INIST-1150 A, 354000032567580020
AN 1993-0255167 PASCAL

L37 ANSWER 26 OF 27 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1991:21218262 BIOTECHNO
TITLE: Fluorescence polarization immunoassay employing immobilized antibody
AUTHOR: Tsuruoka M.; Tamiya E.; Karube I.
CORPORATE SOURCE: TOYOBO Co. Ltd Research Center, Katata, Shiga 520-02, Japan.
SOURCE: Biosensors and Bioelectronics, (1991), 6/6 (501-505)
CODEN: BBIOE4 ISSN: 0956-5663
DOCUMENT TYPE: Journal; Conference Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1991:21218262 BIOTECHNO
AB The use of an antibody immobilized on **latex** or silver colloid in fluorescence polarization immunoassay (FPI) is assessed. In FPI it is possible to detect antigens of high molecular weight because the molecular weight of the antibody is effectively increased. In the assay for rabbit immunoglobulin G a limit of detection lower by two orders of magnitude and an assay range wider by one order of magnitude can be obtained in comparison with conventional FPI. The detection limit is

```
      10.sup.-.sup.1.sup.0 mol l.sup.-.sup.1 and the total assay time for one
      sample is 8 min. This assay combines a low detection limit with a short
      assay time.

L37   ANSWER 27 OF 27  PASCAL  COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED.
      on STN
ACCESSION NUMBER:         1990-0004783   PASCAL
TITLE (IN ENGLISH):       BREVET. Immobilised enzymes and their use in aminoacid
                          electrosensors
CORPORATE SOURCE:         MONSANTO EUROPE SA
SOURCE:                   (31 May 1989)
                          Patent Information: EP 0 318 452 A1
                          Application Information: 88870163.8 1988-10-28
                          Priority Information: GB 8725333 1987-10-29
DOCUMENT TYPE:            Patent
BIBLIOGRAPHIC LEVEL:      Monographic
LANGUAGE:                 English
AVAILABILITY:             INPI
AN    1990-0004783   PASCAL


=> file .jacob
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      46.71      46.92

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FILE 'MEDLINE' ENTERED AT 15:26:06 ON 18 NOV 2003

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=> flickinger m/au
L38             0 FILE CAPLUS
L39             1 FILE BIOSIS
L40             2 FILE MEDLINE
L41             3 FILE EMBASE
L42             0 FILE USPATFULL

TOTAL FOR ALL FILES
L43             6 FLICKINGER M/AU

=> l43 and biosensor
L44             0 FILE CAPLUS
L45             0 FILE BIOSIS
L46             0 FILE MEDLINE
L47             0 FILE EMBASE
L48             0 FILE USPATFULL

TOTAL FOR ALL FILES
L49             0 L43 AND BIOSENSOR

=> d l49 ibib abs total
L49 HAS NO ANSWERS
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'TOTAL ' IS NOT A VALID SEARCH STATUS KEYWORD
Search status keywords:
NONE ---- Display only the number of postings.
STATUS -- Display statistics of the search.
ENTER SEARCH STATUS OPTION (NONE), STATUS, OR ?:none
L38 0 SEA FILE=CAPLUS ABB=ON PLU=ON FLICKINGER M/AU
L39 1 SEA FILE=BIOSIS ABB=ON PLU=ON FLICKINGER M/AU
L40 2 SEA FILE=MEDLINE ABB=ON PLU=ON FLICKINGER M/AU
L41 3 SEA FILE=EMBASE ABB=ON PLU=ON FLICKINGER M/AU
L42 0 SEA FILE=USPATFULL ABB=ON PLU=ON FLICKINGER M/AU
L43 6 SEA FLICKINGER M/AU
L44 0 SEA FILE=CAPLUS ABB=ON PLU=ON L38 AND BIOSENSOR
L45 0 SEA FILE=BIOSIS ABB=ON PLU=ON L39 AND BIOSENSOR
L46 0 SEA FILE=MEDLINE ABB=ON PLU=ON L40 AND BIOSENSOR
L47 0 SEA FILE=EMBASE ABB=ON PLU=ON L41 AND BIOSENSOR
L48 0 SEA FILE=USPATFULL ABB=ON PLU=ON L42 AND BIOSENSOR
L49 0 SEA L43 AND BIOSENSOR

=> d l43 ibib abs total

L43 ANSWER 1 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 1974:95624 BIOSIS
DOCUMENT NUMBER: PREV197410095624; BR10:95624
TITLE: MICROBIAL INACTIVATION OF ERYTHROMYCIN.
AUTHOR(S): **FLICKINGER M**; PERLMAN D
SOURCE: Abstracts of the Annual Meeting of the American Society for Microbiology, (1974) Vol. 74, pp. 71.
CODEN: ASMACK. ISSN: 0094-8519.
DOCUMENT TYPE: Article
FILE SEGMENT: BR
LANGUAGE: Unavailable

L43 ANSWER 2 OF 6 MEDLINE on STN
ACCESSION NUMBER: 2001533895 MEDLINE
DOCUMENT NUMBER: 21464428 PubMed ID: 11580272
TITLE: Reduced outer membrane permeability of Escherichia coli O157:H7: suggested role of modified outer membrane porins and theoretical function in resistance to antimicrobial agents.
AUTHOR: Martinez M B; **Flickinger M**; Higgins L; Krick T; Nelsestuen G L
CORPORATE SOURCE: Department of Biochemistry, Molecular Biology, and Biophysics, University of Minnesota, St. Paul, Minnesota 55108, USA.
CONTRACT NUMBER: HL60859 (NHLBI)
SOURCE: BIOCHEMISTRY, (2001 Oct 9) 40 (40) 11965-74.
Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200111
ENTRY DATE: Entered STN: 20011003
Last Updated on STN: 20011105
Entered Medline: 20011101
AB Outer membrane permeability of Escherichia coli O157:H7 was determined by an in vivo kinetic model with the periplasmic enzyme alkaline phosphatase [Martinez et al. (1996) Biochemistry 35, 1179-1186]. p-Nitrophenyl phosphate (PNPP) substrate, added to intact bacteria, must diffuse through the outer membrane to reach the enzyme. At low substrate concentration the bacterium was in the perfectly reactive state where all molecules that entered the periplasm were captured and converted to product. Transmembrane diffusion was rate limiting, and the permeability of the

outer membrane was determined from kinetic properties. The O157:H7 strain grown at 30 degrees C showed one-sixth the permeability of wild-type E. coli grown at 30 degrees C. Wild-type bacteria grown at >/=37 degrees C show a physiological response with a shift in expression of outer membrane porins that lowered permeability to PNPP by approximately 70%. The O157:H7 strain did not display this temperature-sensitive shift in permeability even though a change in porin expression could be visualized by staining intensity of Omp F and Omp C on acrylamide gels. Altered behavior of the O157:H7 membrane was also indicated by a several thousand-fold lower response to transformation relative to wild-type E. coli. Matrix-assisted laser desorption ionization time of flight mass spectrometry and electrospray ionization mass spectrometry confirmed the expression of the Omp F and Omp C variants that are unique to E. coli O157:H7. This reduced outer membrane permeability can contribute to enhanced resistance of O157:H7 to antimicrobial agents.

L43 ANSWER 3 OF 6 MEDLINE on STN
ACCESSION NUMBER: 1999458595 MEDLINE
DOCUMENT NUMBER: 99458595 PubMed ID: 10527514
TITLE: The efficient removal of endotoxins from insulin using quaternized polyethyleneimine-coated porous zirconia.
AUTHOR: McNeff C; Zhao Q; Almlof E; **Flickinger M**; Carr P W
CORPORATE SOURCE: Department of Chemistry, University of Minnesota, 207 Pleasant Street S.E., Minneapolis, Minnesota, 55455, USA.
SOURCE: ANALYTICAL BIOCHEMISTRY, (1999 Oct 15) 274 (2) 181-7. Journal code: 0370535. ISSN: 0003-2697.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199912
ENTRY DATE: Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991213

AB The synthesis and use of a zirconia-based, alkali-stable strong anion-exchange stationary phase are described for the removal of pyrogenic lipopolysaccharides (LPS) from insulin. The strong anion-exchange material is produced by deposition of polyethyleneimine (PEI) onto porous zirconia particles, followed by cross-linking with a novel reagent, 1,2-bis-(2-iodoethoxy) ethane, and quaternization with iodomethane. Physical characterization of the chromatographic support shows that it has an ion-exchange capacity of 0.6 mmol/g, and 82% of the amine sites on the surface are in quaternized form. Isocratic elution of small benzoic acid derivatives shows good column efficiency. The two primary virtues of this material are its chemical stability under alkali conditions (up to pH 13) and its lower hydrophobicity compared to previously described alkali-stable PEI-coated zirconia supports cross-linked with 1,10-diiododecane. Using this new zirconia-based phase, a purification protocol is developed for the efficient removal of Escherichia coli 0111:B4 LPS from bovine insulin samples. An endotoxin clearance rate of up to 1.3 x 10(8) was attained. Endotoxin levels were reduced to less than 5 endotoxin units/ml even at initial contamination levels as high as 5.0 x 10(6) endotoxin units/ml. Furthermore, endotoxin adsorbed to the porous zirconia column may be easily removed (depyrogenated) using alkali for repeated purification cycles.

L43 ANSWER 4 OF 6 EMBASE
on STN
ACCESSION NUMBER: 2001357250 EMBASE
TITLE: Reduced outer membrane permeability of Escherichia coli O157:H7: Suggested role of modified outer membrane porins and theoretical function in resistance to antimicrobial

agents.

AUTHOR: Martinez M.B.; **Flickinger M.**; Higgins L.A.; Krick T.; Nelsestuen G.L.

CORPORATE SOURCE: G.L. Nelsestuen, Department of Biochemistry, University of Minnesota, St. Paul, MN 55108, United States. nelse002@tc.umn.edu

SOURCE: Biochemistry, (9 Oct 2001) 40/40 (11965-11974).
Refs: 55
ISSN: 0006-2960 CODEN: BICHAW

COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Outer membrane permeability of Escherichia coli O157:H7 was determined by an in vivo kinetic model with the periplasmic enzyme alkaline phosphatase [Martinez et al. (1996) Biochemistry 35, 1179-1186]. p-Nitrophenyl phospate (PNPP) substrate, added to intact bacteria, must diffuse through the outer membrane to reach the enzyme. At low substrate concentration the bacterium was in the perfectly reactive state where all molecules that entered the periplasm were captured and converted to product. Transmembrane diffusion was rate limiting, and the permeability of the outer membrane was determined from kinetic properties. The O157:H7 strain grown at 30 .degree.C showed one-sixth the permeability of wild-type E. coli grown at 30 .degree.C. Wild-type bacteria grown at .gtoreq.37 .degree.C show a physiological response with a shift in expression of outer membrane porins that lowered permeability to PNPP by approximately 70%. The O157:H7 strain did not display this temperature-sensitive shift in permeability even though a change in porin expression could be visualized by staining intensity of Omp F and Omp C on acrylamide gels. Altered behavior of the O157:H7 membrane was also indicated by a several thousand-fold lower response to transformation relative to wild-type E. coli. Matrix-assisted laser desorption ionization time of flight mass spectrometry and electrospray ionization mass spectrometry confirmed the expression of the Omp F and Omp C variants that are unique to E. coli O157:H7. This reduced outer membrane permeability can contribute to enhanced resistance of O157:H7 to antimicrobial agents.

L43 ANSWER 5 OF 6 EMBASE
on STN

ACCESSION NUMBER: 1999364231 EMBASE

TITLE: The efficient removal of endotoxins from insulin using quaternized polyethyleneimine-coated porous zirconia.

AUTHOR: McNeff C.; Zhao Q.; Almlof E.; **Flickinger M.**; Carr P.W.

CORPORATE SOURCE: P.W. Carr, Department of Chemistry, University of Minnesota, 207 Pleasant Street S.E., Minneapolis, MN 55455, United States

SOURCE: Analytical Biochemistry, (15 Oct 1999) 274/2 (181-187).
Refs: 28
ISSN: 0003-2697 CODEN: ANBCA2

COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The synthesis and use of a zirconia-based, alkalistable strong anion-exchange stationary phase are described for the removal of pyrogenic lipopolysaccharides (LPS) from insulin. The strong anion-exchange material is produced by deposition of polyethyleneimine (PEI) onto porous zirconia particles, followed by cross-linking with a novel reagent, 1,2-bis-(2-iodo- ethoxy) ethane, and quaternization with iodomethane.

Physical characterization of the chromatographic support shows that it has an ion- exchange capacity of 0.6 mmol/g, and 82% of the amine sites on the surface are in quaternized form. Isocratic elution of small benzoic acid derivatives shows good column efficiency. The two primary virtues of this material are its chemical stability under alkali conditions (up to pH 13) and its lower hydrophobicity compared to previously described alkali-stable PEI-coated zirconia supports cross-linked with 1,10-diiododecane. Using this new zirconia-based phase, a purification protocol is developed for the efficient removal of Escherichia coli 0111:B4 LPS from bovine insulin samples. An endotoxin clearance rate of up to 1.3 x 108 was attained. Endotoxin levels were reduced to less than 5 endotoxin units/ml even at initial contamination levels as high as 5.0 x 106 endotoxin units/ml. Furthermore, endotoxin adsorbed to the porous zirconia column may be easily removed (depyrogenated) using alkali for repeated purification cycles.

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ACCESSION NUMBER: 93361454 EMBASE
DOCUMENT NUMBER: 1993361454
TITLE: Erratum: Cloning and sequence analysis of the meso-diaminopimelate decarboxylase gene from Bacillus methanolicus MGA3 and comparison to other decarboxylase genes (Applied and Environmental Microbiology 9:9 (2935)).
AUTHOR: Mills D.A.; **Flickinger M.**
CORPORATE SOURCE: Department of Biochemistry, IASBPT, University of Minnesota, 1479 Gortner Avenue,St. Paul, MN 55108, United States
SOURCE: Applied and Environmental Microbiology, (1993) 59/12 (4377).
ISSN: 0099-2240 CODEN: AEMIDF
COUNTRY: United States
DOCUMENT TYPE: Journal; Errata
FILE SEGMENT: 004 Microbiology
LANGUAGE: English

=> file .chemistry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	16.89	63.81

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=> biosensor(P)latex(P)(coat or imbed or integra)
L50          0 FILE CAPLUS
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L51          0 FILE BIOTECHNO
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L52          0 FILE COMPENDEX
L53          0 FILE ANABSTR
L54          0 FILE CERAB
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'BIOSENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L55          0 FILE METADEX
L56          4 FILE USPATFULL

TOTAL FOR ALL FILES
L57          4 BIOSENSOR(P) LATEX(P)(COAT OR IMBED OR INTEGRA)

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PROCESSING COMPLETED FOR L57
L58           4 DUP REM L57 (0 DUPLICATES REMOVED)

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L58  ANSWER 1 OF 4  USPATFULL on STN
ACCESSION NUMBER:       2003:237907  USPATFULL
TITLE:                  Compositions and methods for the therapy and diagnosis
                        of colon cancer
INVENTOR(S):            King, Gordon E., Shoreline, WA, UNITED STATES
                        Meagher, Madeleine Joy, Seattle, WA, UNITED STATES
                        Xu, Jiangchun, Bellevue, WA, UNITED STATES
                        Secrist, Heather, Seattle, WA, UNITED STATES
                        Jiang, Yuqiu, Kent, WA, UNITED STATES
PATENT ASSIGNEE(S):     Corixa Corporation, Seattle, WA, UNITED STATES, 98104
                        (U.S. corporation)

                             NUMBER        KIND    DATE
                        ---------------- ------ --------
PATENT INFORMATION:     US 2003166064      A1   20030904
APPLICATION INFO.:      US 2002-99926      A1   20020314  (10)
RELATED APPLN. INFO.:   Continuation-in-part of Ser. No. US 2001-33528, filed
                        on 26 Dec 2001, PENDING Continuation-in-part of Ser.
                        No. US 2001-920300, filed on 31 Jul 2001, PENDING

                               NUMBER         DATE
                        ------------------ --------
PRIORITY INFORMATION:   US 2001-302051P    20010629 (60)
                        US 2001-279763P    20010328 (60)
                        US 2000-223283P    20000803 (60)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           APPLICATION
LEGAL REPRESENTATIVE:   SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH
                        AVE, SUITE 6300, SEATTLE, WA, 98104-7092
NUMBER OF CLAIMS:       17
```

EXEMPLARY CLAIM: 1
LINE COUNT: 8531
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods for the therapy and diagnosis of cancer, particularly colon cancer, are disclosed. Illustrative compositions comprise one or more colon tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly colon cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L58 ANSWER 2 OF 4 USPATFULL on STN
ACCESSION NUMBER: 2003:106233 USPATFULL
TITLE: Compositions and methods for the therapy and diagnosis of pancreatic cancer
INVENTOR(S): Benson, Darin R., Seattle, WA, UNITED STATES
Kalos, Michael D., Seattle, WA, UNITED STATES
Lodes, Michael J., Seattle, WA, UNITED STATES
Persing, David H., Redmond, WA, UNITED STATES
Hepler, William T., Seattle, WA, UNITED STATES
Jiang, Yuqiu, Kent, WA, UNITED STATES
PATENT ASSIGNEE(S): Corixa Corporation, Seattle, WA, UNITED STATES, 98104 (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2003073144	A1	20030417	
APPLICATION INFO.:	US 2002-60036	A1	20020130	(10)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 2001-333626P	20011127	(60)
	US 2001-305484P	20010712	(60)
	US 2001-265305P	20010130	(60)
	US 2001-267568P	20010209	(60)
	US 2001-313999P	20010820	(60)
	US 2001-291631P	20010516	(60)
	US 2001-287112P	20010428	(60)
	US 2001-278651P	20010321	(60)
	US 2001-265682P	20010131	(60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH AVE, SUITE 6300, SEATTLE, WA, 98104-7092
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
LINE COUNT: 14253
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods for the therapy and diagnosis of cancer, particularly pancreatic cancer, are disclosed. Illustrative compositions comprise one or more pancreatic tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly pancreatic cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L58 ANSWER 3 OF 4 USPATFULL on STN
ACCESSION NUMBER: 2002:272801 USPATFULL

TITLE: Compositions and methods for the therapy and diagnosis of colon cancer
INVENTOR(S): Stolk, John A., Bothell, WA, UNITED STATES
Xu, Jiangchun, Bellevue, WA, UNITED STATES
Chenault, Ruth A., Seattle, WA, UNITED STATES
Meagher, Madeleine Joy, Seattle, WA, UNITED STATES
PATENT ASSIGNEE(S): Corixa Corporation, Seattle, WA, UNITED STATES, 98104 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002150922	A1	20021017
APPLICATION INFO.:	US 2001-998598	A1	20011116 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-304037P	20010710 (60)
	US 2001-279670P	20010328 (60)
	US 2001-267011P	20010206 (60)
	US 2000-252222P	20001120 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH AVE, SUITE 6300, SEATTLE, WA, 98104-7092
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
LINE COUNT: 9233
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods for the therapy and diagnosis of cancer, particularly colon cancer, are disclosed. Illustrative compositions comprise one or more colon tumor polypeptides, immunogenic portions thereof, polynucleotides that encode such polypeptides, antigen presenting cell that expresses such polypeptides, and T cells that are specific for cells expressing such polypeptides. The disclosed compositions are useful, for example, in the diagnosis, prevention and/or treatment of diseases, particularly colon cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L58 ANSWER 4 OF 4 USPATFULL on STN
ACCESSION NUMBER: 2002:243051 USPATFULL
TITLE: Compositions and methods for the therapy and diagnosis of ovarian cancer
INVENTOR(S): Algate, Paul A., Issaquah, WA, UNITED STATES
Jones, Robert, Seattle, WA, UNITED STATES
Harlocker, Susan L., Seattle, WA, UNITED STATES
PATENT ASSIGNEE(S): Corixa Corporation, Seattle, WA, UNITED STATES, 98104 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002132237	A1	20020919
APPLICATION INFO.:	US 2001-867701	A1	20010529 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-207484P	20000526 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SEED INTELLECTUAL PROPERTY LAW GROUP PLLC, 701 FIFTH AVE, SUITE 6300, SEATTLE, WA, 98104-7092
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
LINE COUNT: 25718

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CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB      Compositions and methods for the therapy and diagnosis of cancer,
        particularly ovarian cancer, are disclosed. Illustrative compositions
        comprise one or more ovarian tumor polypeptides, immunogenic portions
        thereof, polynucleotides that encode such polypeptides, antigen
        presenting cell that expresses such polypeptides, and T cells that are
        specific for cells expressing such polypeptides. The disclosed
        compositions are useful, for example, in the diagnosis, prevention
        and/or treatment of diseases, particularly ovarian cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.


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L59           6 FILE CAPLUS
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FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L60           0 FILE BIOTECHNO
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L61          11 FILE COMPENDEX
L62           1 FILE ANABSTR
L63           0 FILE CERAB
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'SENSOR(P)LATEX'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LATEX(P)(COAT'
L64           0 FILE METADEX
L65          29 FILE USPATFULL

TOTAL FOR ALL FILES
L66          47 SENSOR(P) LATEX(P)(COAT OR IMBED OR INTEG?)

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ENTER L# LIST OR (END):166
PROCESSING COMPLETED FOR L66
L67           43 DUP REM L66 (4 DUPLICATES REMOVED)

=> d l59-64 ibib abs total
'L59-64' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
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REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d
'D' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
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individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d l59
'D' IS NOT A VALID FORMAT
'L59' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d l67 ibib abs total
'D' IS NOT A VALID FORMAT
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'L67' IS NOT A VALID FORMAT
'TOTAL' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):y\
'Y\' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):y
'Y' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d l67 ibib abs total
'D' IS NOT A VALID FORMAT
'L67' IS NOT A VALID FORMAT
'TOTAL' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):d
'D' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):ex
'EX' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):exit
'EXIT' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
or the STNGUIDE file for information on formats available in
individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):u
'U' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid
in at least one of the files.  Refer to file specific help messages
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individual files.
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L Number	Hits	Search Text	DB	Time stamp
1	1004	sensor same polymer same (coat or imbed or integra$)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/11/18 16:31
2	22	sensor same polymer same (coat or imbed or integra?) same detect	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/11/18 16:34
3	28610	cell near15 (latex or polymer)	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:34
4	100	(sensor same polymer same (coat or imbed or integra$)) and (cell near15 (latex or polymer))	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:35
5	38	((sensor same polymer same (coat or imbed or integra$)) and (cell near15 (latex or polymer))) and porous	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:50
6	958771	(polymer or latex) near3 immobili$ cell	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:51
7	957356	latex near2 immobilized cell	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:52
8	45	(polymer or latex) near2 immobilized near2 cell	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 16:52
9	6	((polymer or latex) near2 immobilized near2 cell) same (detect or measure or determin$)	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 17:02
10	0	EP-0288203-$.did.	USPAT; US-PGPUB; EPO; DERWENT	2003/11/18 17:02
11	0	EP-0288203-$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/11/18 17:04

ACCESSION NUMBER: 2003-0447555 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2003 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Microelectrochemical **sensors** for in vivo brain analysis: an investigation of procedures for modifying Pt electrodes using Nafion.RTM. Emerging Investigators Special Issue
AUTHOR: BROWN Finbar O.; LOWRY John P.
COLON Luis (ed.); LOBINSKI Ryszard (ed.); BABA Yoshinobu (ed.)
CORPORATE SOURCE: Sensors Development Unit, Bioelectroanalysis Laboratory, Department of Chemistry, National University of Ireland, Maynooth, Co. Kildare, Ireland University at Buffalo, United States; Universite de Pau et des Pays de l'Adour, France; The University of Tokushima, Japan
SOURCE: Analyst : (London. 1877. Print), (2003), 128(6), 700-705, 38 refs.
ISSN: 0003-2654 CODEN: ANALAO
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United Kingdom
LANGUAGE: English
AVAILABILITY: INIST-1036, 354000118477470320
AN 2003-0447555 PASCAL
CP Copyright .COPYRGT. 2003 INIST-CNRS. All rights reserved.
AB Various Nafion.RTM. coating procedures were examined in order to design a simple and reproducible coating method to maximise permselective characteristics, and thus eliminate signals from electroactive interferents, in **sensors** designed for direct in vivo measurements in the brain. Interferents investigated included ascorbic acid (AA), the principal endogenous electroactive interferent present in the brain, and uric acid. Application of the Nafion.RTM. (5% commercial solution) using a thermally annealing procedure involving 5 pre-**coats**, and 2 subsequent dip-bake layers resulted in elimination of interferent signals. It also produced complete blocking of the signal for the neurotransmitter dopamine. The optimum time and temperature for annealing was found to be 5 min at 210 .degree.C. An examination of shelf life over two weeks indicated negligible AA interference over this period. Preliminary investigations with respect to the potential use of these Nafion.RTM.-modified Pt electrodes in the design of implantable, first generation, peroxide detecting biosensors indicated that the modified electrode had no effect on O.sub.2 permeability but did produce a significant decrease in H.sub.2O.sub.2 sensitivity. While this may preclude their use in biosensor development they may be more suitable for detection of gaseous neurochemicals such as nitric oxide.

L126 ANSWER 2 OF 12 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 2003-0326179 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2003 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Preparation and characterization of implantable **sensors** with nitric oxide release coatings
AUTHOR: FROST Megan C.; BATCHELOR Melissa M.; YOUNGMI LEE; HUIPING ZHANG; YOUNGJEA KANG; OH Bongkyun; WILSON George S.; GIFFORD Raeann; RUDICH Steven M.; MEYERHOFF Mark E.
CORPORATE SOURCE: Department of Chemistry, The University of Michigan, Ann Arbor, MI 48109, United States; Department of Chemistry, University of Kansas, Lawrence, KS 66045, United States; Department of General Surgery, The University of Michigan, Ann Arbor, MI 48109, United States

SOURCE: Microchemical journal, (2003), 74(3), 277-288, 28 refs.
ISSN: 0026-265X CODEN: MICJAN
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-8678, 354000118240680090
AN 2003-0326179 PASCAL

AB The widespread use of miniaturized chemical **sensors** to monitor clinically important analytes such as PO.sub.2, PCO.sub.2, pH, electrolytes, glucose and lactate in a continuous, real-time manner has been seriously hindered by the erratic analytical results often obtained when such devices are implanted in vivo. One major factor that has influenced the analytical performance of indwelling **sensors** is the biological response they elicit when in contact with blood or tissue (e.g. thrombus formation on the device surface, inflammatory response, encapsulation, etc.). Nitric oxide (NO) has been shown to be a potent inhibitor of platelet adhesion and activation as well as a promoter of wound healing in tissue. Herein, we review recent work aimed at the development of hydrophobic NO-releasing **polymers** that can be employed to **coat** catheter-type amperometric oxygen **sensors** without interfering with the analytical performance of these devices. Such modified **sensors** are shown to exhibit greatly enhanced hemocompatibility and improved analytical performance when implanted within porcine carotid and femoral arteries for up to 16 h. Further, results from preliminary studies also demonstrate that prototype fluorescent oxygen **sensors**, catheter-style potentiometric carbon dioxide **sensors** and subcutaneous needle-type enzyme-based amperometric glucose **sensors** can also be fabricated with new NO-release outer coatings without compromising the analytical response characteristics of these devices. The NO-release strategy may provide a solution to the lingering biocompatibility problems encountered when miniature chemical **sensors** are implanted in vivo.

L126 ANSWER 3 OF 12 PASCAL
on STN
ACCESSION NUMBER: 2002-0022651 PASCAL

TITLE (IN ENGLISH): Fiber-optic luminescent **sensors** with composite oxygen-sensitive layers and anti-biofouling coatings
AUTHOR: NAVARRO-VILLOSLADA F.; ORELLANA G.; MORENO-BONDI M. C.; VICK T.; DRIVER M.; HILDEBRAND G.; LIEFEITH K.
CORPORATE SOURCE: Departments of Organic Chemistry and Analytical Chemistry, Universidad Complutense de Madrid, 28040 Madrid, Spain; Biocompatibles Ltd., Farnham Business Park, Weydon Lane, Farnham, Surrey GU9 8QL, United Kingdom; Institute for Bioprocessing and Analytical Measurement Techniques, Rosenhof, 37308 Heiligenstadt, Germany, Federal Republic of
SOURCE: Analytical chemistry : (Washington, DC), (2001), 73(21), 5150-5156
ISSN: 0003-2700 CODEN: ANCHAM
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
NOTE: ref. et notes dissem.
AVAILABILITY: INIST-120B, 354000099968370250
AN 2002-0022651 PASCAL

CP Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.
AB Anti-biofouling **polymers** containing phosphorylcholine (PC)-substituted methacrylate units have been prepared by copolymerization with dodecyl methacrylate and used to **coat** luminescent oxygen **sensors**. Nanometer-sized coatings of such materials are shown to reduce significantly the adhesion of marine bacteria (more than 70%) and thrombocytes (more than 90%) to the surface of tris-(4,7-diphenyl-1,10-phenanthroline)ruthenium(II)-doped silicone layers. A thorough analytical characterization of both the PC-coated and the uncoated dyed films has demonstrated that the anti-biofouling layers do not alter dramatically the performance of the fiber-optic oxygen **sensors** in aqueous media and are mechanically stable for more than one year of continuous immersion. The slope of the linear calibration plots in the 0-8 mg L.sup.-.sup.1 oxygen concentration range (ca. 1.0 L mg.sup.-.sup.1) decreases 8-11% after applying the 50-nm protective layer with no change in the **sensor** precision (1.1-1.9% RSD, n = 6). The response time of the 200-.mu.m O.sub.2-sensitive layers (1.5-6 min) increases up to 2-fold, depending on the nature of the PC **polymer** used, but the temperature effect on the **sensor** response (0.020 L mg.sup.-.sup.1 .degree.C.sup.-.sup.1) remains essentially unchanged. Oxygen detection limits as low as 0.04 mg L.sup.-.sup.1have been measured with the coated optodes. The novel biofouling-resistant optosensors have been successfully validated against a commercial oxygen electrode and are shown to respond faster than the electrochemical device for large oxygen concentration changes. The biomimetic coatings will be particularly useful for drift-free long-term operation of environmental optosensors and in vivo fiber-optic oxygen analyzers.

L126 ANSWER 4 OF 12 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 2001-0295678 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Research in particle coating and agglomeration at West Virginia University
Granulation and coating of fine powders
AUTHOR: TURTON R.; BHATIA A.; HAKIM H.; SUBRAMANIAN G.; NORMAN Lewis
TARDOS Gabriel I. (ed.)
CORPORATE SOURCE: Department of Chemical Engineering, CEMR, West Virginia University, P.O. Box 6102, Morgantown, WV 26506-6102, United States; Halliburton Energy Services, 2600 South 2nd St., Duncan, OK 73536, United States
Department of Chemical Engineering, The City College of The City University of New York, Convent Avenue at 140th Street, New York, NY 10031, United States
SOURCE: Powder technology, (2001), 117(1-2), 139-148, 19 refs.
ISSN: 0032-5910 CODEN: POTEBX
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Switzerland
LANGUAGE: English
AVAILABILITY: INIST-13653, 354000098895940080
AN 2001-0295678 PASCAL
CP Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
AB Over the last three years, work in the Particle Coating Laboratory at West Virginia University has focused on three main areas. The first area concerns the reversible agglomeration of cement to produce a granular product (2-10 mm) that can be transported easily and can be broken down and hydrated to form a cement slurry with properties identical to virgin cement. This agglomeration process uses a binding agent consisting of calcium chloride (CC) and tartaric acid (TA) dissolved in methanol that

can be considered an inert solvent. By adjusting the proportions of the cement set accelerating agent (CC) and the retarding agent (TA) a granular cement product can be formed that gives a cement slurry with essentially the same characteristics as that obtained from virgin cement. The resulting concrete also has the same compressive strength, obtained in a standard 3-day test, as virgin cement. The second research area concerns the formation of encapsulated brittle particles of ammonium persulfate (AP) that are used as viscosity breaking agents for fracturing fluids. In order to obtain a **coat** that under goes brittle fracture when subjected to a compressive load, a coating of a cross-linked acrylate **polymer** containing up to 80 wt% of fine (<15 .mu.m) silica was used. By varying the coating level of acrylate, the release of the ammonium persulfate using a standard leach test can be reduced to acceptably low levels (<3%). By changing the fraction of silica in the **coat**, the release of the ammonium persulfate when the particles are subjected to a known compressive stress (13.8 MPa) can be increased to approximately 70%. The particles formed by this process comprise of agglomerates of between 10 and 20 individually coated particles. When subjected to an applied load, these agglomerates fracture and the coating on the individual particles is sheared away thus releasing AP. These particles can be used as viscosity breaking agents in drilling well fracturing operations. The third project consists of the video imaging of particle movement in a semicircular fluidized bed typically used in coating operations. The particles of interest are 8-mm-diameter tablets. The technique used to capture particle velocity data utilizes two CCD cameras that are synchronized to capture images that are between 1 and 5 ms apart. The mapping of particle velocity within the spray region in the draft tube insert under a variety of conditions is currently underway. Preliminary data is presented and discussed.

L126 ANSWER 5 OF 12 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2000-0369936 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Ideality of pressure-sensitive paint. III. Effect of the base-**coat** permeability on the luminescence behavior of the sensing layer
AUTHOR: GOUIN S.; GOUTERMAN M.
CORPORATE SOURCE: Department of Chemistry, University of Washington, Seattle, Washington 98195, United States
SOURCE: Journal of applied polymer science, (2000), 77(13), 2815-2823, 25 refs.
ISSN: 0021-8995 CODEN: JAPNAB
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-1257, 354000090320470030

AN 2000-0369936 PASCAL
CP Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.
AB The response time and temperature dependence of a pressure-sensitive paint (PSP) based on platinum tetra(pentafluorophenyl)porphine (PtTFPP) in the fluoroacrylic **polymer** FIB significantly increases for bilayer paint systems that include a base **coat** made of different **polymers** with solid TiO.sub.2 added as scattering agent, compared to the single-layer **sensor** paint. The temperature dependencies at vacuum are the same in the various bilayer coatings (paint/base **coat**) as compared to monolayer paint, roughly -0.53%/.degree.C. With FIB base **coat** the percent of TiO.sub.2 is adjusted to reduce photodegradation, in which case only a slight increase in response time (0.6 0.8 s) is caused by the base **coat** and there is almost no change in temperature dependence at 1

atm. However, in the cases of the less permeable **polymers**, poly(methylmethacrylate) (PMMA) and poly(vinyl acetate) (PVA), there is increased response time of the bilayer coating (rising, respectively, to 15 and 7 s) and significantly greater temperature dependence at 1 atm. The highly impermeable polyacrylonitrile (PAN) as base **coat** shows little effect on response time but a somewhat higher temperature dependence at 1 atm compared to vacuum. For the highly permeable polydimethylsiloxane (PDMS), adjustment of the TiO.sub.2 concentration is needed to prevent an increase in temperature dependence but both PDMS base **coats** tested have response times < 2 s and low-temperature dependence.

L126 ANSWER 6 OF 12 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2000-0407393 PASCAL

TITLE (IN ENGLISH): Parallel frequency readout of an array of mass-sensitive transducers for **sensor** applications
Micro- and Nano-Engineering 99: MNE 99

AUTHOR: KIM B. H.; MAUTE M.; PRINS F. E.; KERN D. P.; CROITORU M.; S.RAIBLE; WEIMAR U.; GOEPEL W.
GENTILI Massimo (ed.); DI FABRIZIO Enzo (ed.); MENEGHINI Giancarlo (ed.)

CORPORATE SOURCE: Institute of Applied Physics, University of Tuebingen, Auf der Morgenstelle 10, 72076 Tuebingen, Germany, Federal Republic of; Institute of Physical and Theoretical Chemistry, University of Tuebingen, Auf der Morgenstelle 8, 72076 Tuebingen, Germany, Federal Republic of
Istituto di Elettronica dello Stato Solido-CNR, Via Cineto Romano 42, 00156 Rome, Italy; INFM-TASC at Elettra Synchrotron Light Source - LILIT Beam-line, S.S.14 Km 163.5, Area Science Park, 34012 Basovizza, Trieste, Italy; CSELT, Centro Studio e Lab. Telecommunicazzioni, Via G. Reiss Romoli, 274, 10141 Torino, Italy

SOURCE: Microelectronic engineering, (2000), 53(1-4), 229-232, 3 refs.
Conference: 25 International Conference on Micro- and Nano-Engineering, Rome (Italy), 21 Sep 1999
ISSN: 0167-9317 CODEN: MIENEF

DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands
LANGUAGE: English
AVAILABILITY: INIST-20003, 354000090746350450

AN 2000-0407393 PASCAL

AB **Polymer** coated cantilevers as mass-sensitive transducers for miniaturized gas **sensors**, an approach for which promising results have been demonstrated recently [1], have been developed and investigated further towards applications. A new detection arrangement has been realized, which enables a simultaneous frequency readout of several cantilevers. In addition, it was possible to **coat** the cantilevers with different **polymers** showing specific sensitivity to different gases. Finally, we present the first measurements on the simultaneous application and readout of differently coated cantilevers exposed to a mixture of gases.

L126 ANSWER 7 OF 12 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2001-0349855 PASCAL

COPYRIGHT NOTICE: Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Plasma **polymers** applied to chemical sensing
AUTHOR: PARTRIDGE Ashton; HARRIS Paul; HIROTSU Toshihiro; KUROSAWA Shigeru
CORPORATE SOURCE: Industrial Research Ltd., Lower Hutt, New Zealand; National Institute of Materials and Chemical Research, Ibaraki, Japan
SOURCE: Plasmas and polymers, (2000), 5(3-4), 191-200, 13 refs.
ISSN: 1084-0184
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-26303, 354000096631140050
AN 2001-0349855 PASCAL
CP Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
AB The paper describes attempts to apply plasma **polymers** to the development of chemical **sensors**. The plasma **polymers** were used as membranes to **coat** conventional conducting **polymer sensors**, as stand-alone chemiresistive **sensors** and as absorbent coatings on quartz crystal microbalances. The plasma **polymers** were derived from combinations of pyrrole and three silicon containing monomers. In the chemiresistive **sensors**, conductivity was induced in the **polymer** matrix by doping with iodine. The paper describes the experimental polymerization conditions, the physical characteristics of the **polymers**, and the application of the different **polymers** to sensing common volatile analytes.

L126 ANSWER 8 OF 12 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 2000-0334255 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Quartz microbalance microcalorimetry: A new method for studying **polymer**-solvent thermodynamics
Advances in thermal characterization of polymeric materials
AUTHOR: SMITH A. L.; SHIRAZI H. M.
KEATING Mimi Y. (ed.)
CORPORATE SOURCE: Chemistry Department, Drexel University, Philadelphia, PA 19104, United States
E. I. duPont de Nemours and Company, Wilmington, DE 19880-0323, United States
SOURCE: Journal of thermal analysis and calorimetry, (2000), 59(1-2), 171-186, 24 refs.
ISSN: 1388-6150
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands
LANGUAGE: English
AVAILABILITY: INIST-6367, 354000087525790130
AN 2000-0334255 PASCAL
CP Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.
AB We have developed a sensitive method of determining enthalpy changes for gas-surface interactions: quartz microbalance microcalorimetry. We mount in an isoperibol environment both sample and reference combinations of a quartz crystal microbalance (QCM) in intimate thermal contact with a heat flow **sensor**. We **coat** the sample QCM with a thin (.eqvsim.1 .mu.m) **polymer** film. By exposing the film to ethanol vapor, we measure simultaneously the change in mass per unit area (to =0.25 ng cm.sup.-.sup.2) and the resulting heat flows (to .+-.50 nW) when

the **polymer** adsorbs or desorbs ethanol. The molar enthalpies of sorption of ethanol vapor in Tecoflex, an aliphatic polyurethane elastomer, are .DELTA..sub.a.sub.d.sub.s.sub.o.sub.r.sub.p.sub.t.sub.i.sub.o.sub.nH=-53.+-.8 kJ mol.sup.-.sup.1 and .DELTA..sub.d.sub.e.sub.s.sub.o.sub.r.sub.p.sub.t.sub.i.sub.o.sub.nH= 52.+-.3 kJ mol.sup.-.sup.1.

L126 ANSWER 9 OF 12 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1999-0122256 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Dynamic behavior of ultra-thin **polymer** films deposited on surface acoustical wave devices
AUTHOR: AHUJA A.; JAMES D. L.; NARAYAN R.
CORPORATE SOURCE: Texas Tech University, Box 41021, Lubbock, TX 79409-1021, United States
SOURCE: Sensors and actuators. A, Physical, (1999), 72(3), 234-241, 20 refs.
ISSN: 0924-4247
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Switzerland
LANGUAGE: English
AVAILABILITY: INIST-19425A, 354000073717360060
AN 1999-0122256 PASCAL
CP Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.
AB This paper reports the experimental results for **polymer**-coated surface acoustic wave (SAW) that were exposed to various gases (carbon dioxide, methane, ethane). The **polymers** used to **coat** the SAW devices were polycarbonate (PC; glassy), polyisobutylene (PIB; rubbery), and polydimethylsiloxane (PDMS: most rubbery). It was observed that the direction of the frequency shift of the SAW delay line oscillator for the SAW filters coated with PC and PIB could be described from existing work by Wohltjen [H. Wohltjen, Mechanism of operation and design considerations for surface acoustic wave device vapor **sensors**, **Sensors** and Actuators A 5 (1984) 307-325] in which the modulus terms and the electrical terms are insignificant compared to the mass loading terms. However, for the PDMS-coated SAW this was not the case. In every experiment performed, the frequency shift was positive, exactly opposite of what was predicted by the Wohltjen's equation for acoustically thin, perfectly elastic films. It is felt that operation at high frequencies causes changes in the oscillation frequency due to changes in the modulus term in Wohltjen's equation to be comparable to the change in frequency due to the mass loading (.DELTA.h.rho.') term. This is especially relevant if the solubility of the penetrant gases is low.

L126 ANSWER 10 OF 12 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1999-0015005 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Performance optimization of surface acoustic wave chemical **sensors** **Sensors** and actuators
AUTHOR: MCGILL R. A.; CHUNG R.; CHRISEY D. B.; DORSEY P. C.; MATTHEWS P.; PIQUE A.; MLSNA T. E.; STEPNOWSKI J. L.
CORPORATE SOURCE: Code 6670, Naval Research Laboratory, Washington, D.C. 20375-5342, United States; Geo-Centers, Inc., Ft., Washington, MD 20744, United States
SOURCE: IEEE transactions on ultrasonics, ferroelectrics, and frequency control, (1998), 45(5), 1370-1380, 29 refs.
ISSN: 0885-3010 CODEN: ITUCER
DOCUMENT TYPE: Journal

BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-222G9, 354000071334170310
AN 1999-0015005 PASCAL

AB Acoustic wave devices coated with a thin layer of chemoselective material provide highly sensitive chemical **sensors** for the detection and monitoring of vapors and gases. In this work, a variety of coating materials and coating deposition techniques have been evaluated on surface acoustic wave (SAW) devices. A novel thin film deposition technique, matrix assisted pulsed laser evaporation (MAPLE), is utilized to **coat** high quality **polymer** films on SAW devices, and conventional pulsed laser deposition is used to deposit a passivation layer of diamond-like-carbon on a SAW device surface to prevent water adsorption. In addition, chemoselective coatings are formed by covalent attachment of functionalized species to the silica surface of SAW devices. The self-assembled monolayer or near monolayer structures are designed to populate the SAW device surface with the desirable hexafluoroisopropanol moeity. The rapid kinetic signals achievable with the various coated SAW **sensors** during vapor tests are examined as a function of the coating material and the quality of the thin films. In parallel to the thin film deposition, growth, and vapor testing, the electrical characteristics of the SAW **sensor** have been characterized. The quality factor and residual phase noise of **polymer** coated SAW devices are examined, and a prediction of the theoretical limit of the phase noise performance of the loop oscillator is made.

L126 ANSWER 11 OF 12 BIOTECHNO
DUPLICATE
ACCESSION NUMBER: 1996:26185168 BIOTECHNO
TITLE: Strategies for decreasing ascorbate interference at glucose oxidase-modified poly(o-phenylenediamine)-coated electrodes
AUTHOR: McAteer K.; O'Neill R.D.
CORPORATE SOURCE: Department of Chemistry, University College Dublin,Belfield, Dublin 4, Ireland.
SOURCE: Analyst, (1996), 121/6 (773-777)
CODEN: ANALAO ISSN: 0003-2654
DOCUMENT TYPE: Journal; Conference Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1996:26185168 BIOTECHNO
AB Monitoring glucose using biosensors in biological systems is complicated by the presence of reducing agents such as ascorbic acid (AA). This is particularly so in brain extracellular fluid (ECF), where glucose concentrations may be as low as 1 mmol l.sup.-.sup.1 and AA levels are approximately 500 .mu.mol l.sup.-.sup.1. Since glucose oxidase-modified poly(o-phenylenediamine)-coated Pt (Pt/PPD/GOx) electrodes show good stability in vivo, glucose sensitivity and AA-blocking properties, attempts mere made to improve the latter characteristic further by two distinct strategies: incorporating non-enzyme protein into the **polymer** film and underlaying the **polymer** with a lipid **coat**. Both tactics significantly decreased interference by AA without changing the sensitivity to glucose, the lipid modification being the more effective. The current ratio I(Gluc)/I(AA) for 1 mmol l.sup.-.sup.1 glucose and 500 .mu.mol l.sup.-.sup.1 AA for the best 50% of the lipid-modified Pt/PPD/GOx electrodes was approximately 30:1, indicating that these **sensors** are well suited for monitoring brain glucose in vivo.

L126 ANSWER 12 OF 12 BIOTECHNO

DUPLICATE

ACCESSION NUMBER: 1994:24245755 BIOTECHNO

TITLE: Rapid detection of hyperglycaemia by a subcutaneously-implanted glucose **sensor** in the rat

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AB The relationship between the concentration of **polymer** in the **coat** of an electrochemical glucose **sensor** and the lag time between changes in blood glucose and **sensor** output was explored. **Sensors** designed to be highly permeable to glucose were coated with a polyurethane mixture diluted 1: 6.7 (15%) in trichloroethane. **Coats** of those designed to be less permeable were diluted 1:2.5 (40%). The in vitro response of the 40% **sensors**, but not of the 15% **sensors**, was nearly linear up to a glucose level of 56 mM. When tested in 10 rats, the response of the 15% **sensors** to injected glucose was much more rapid than that of the 40% **sensors**. The time difference between the peak blood glucose level and peak **sensor** output was also much smaller for the 15% **sensors**. In conclusion, use of an electrochemical glucose **sensor** with high permeability to glucose demonstrates that glucose in the intravascular space equilibrates very rapidly with the subcutaneous space.